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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,119	07/11/2003	Kelly Hudson	H147 1020.2	4101
7590	01/27/2006			
WOMBLE CARLYLE SANDRIDGE & RICE POST OFFICE BOX 7037 ATLANTA, GA 30357-0037				EXAMINER METZMAIER, DANIEL S
				ART UNIT 1712 PAPER NUMBER

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,119	HUDSON ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 8/21/03; 8/25/05; 10/21/05; 7/1/25/06.
2a) This action is **FINAL**. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 37-67 is/are pending in the application.
4a) Of the above claim(s) 42-45, 49 and 50 is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 37-41, 46-48 and 51-67 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.

 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/21/03 & 8/24/05.
4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. 1/20/2006.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

Claims 37-67 are pending.

Election/Restrictions

1. Applicant's election without traverse of the species of Group I, claims 37, 38, 51-53, 58, 62, and 64, wherein gas is mixed with a liquid and the gas is air and the liquid is fuel oil, in the reply filed on October 21, 2005 and as modified by the interview conversation conducted on January 20, 2006 is acknowledged. See Examiner-Initiated Interview Summary attached. Claims 37-41, 46-48, and 51-67 have been examined only to the extent that they read on the elected species. To the extent applicants assert allowability to the specific species, it is suggested applicants provide a species claim thereto.

2. Claims 42-45 and 49-50 have been withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on October 21, 2005 and as modified by the interview conversation conducted on January 20, 2006.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 37-38, 41, 47-48, 51-53, 58, 62, and 64 are rejected under 35 U.S.C. 102(e) as being anticipated by Wootan et al, US 6,386,751. Wootan et al (abstract; figures 1-8b; column 1, lines 49-54; column 2, lines 1-12, 45-54; column 3, lines 30-49 and 62 et seq; column 4, lines 35-38 and 65-66; column 5, lines 44 et seq and line 66 to column 6, lines 32 and lines 55-57; and claims) discloses methods of employing a diffuser / emulsifier for the oxidation of a variety of materials. Said diffuser / emulsifier induces cavitations in the fluid mixture.

Wootan et al (column 3, line 62, to column 4, lines 2; and column 5, lines 44 et seq) discloses the use of ozone, air or oxygen. Wootan et al (column 5, line 66, to column 6, line 32) discloses applications in treatment of wastewater by oxidizing toxic materials, hydrogenation of oils, mixing fuels and gasses/liquids resulting in higher fuel economy.

5. Claims 37-40, 46-48, 51, 54-67 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsuoka Mitsuhsisa, JP 60 226594 A, as evidenced by the corresponding Patent Abstracts of Japan and Derwent Abstract, AN 1985-321700. Matsuoka Mitsuhsisa (abstracts) discloses processing fuel oil and a gas such as air to

generate a fuel in an excited state to enhance combustion thereof by processing through an apparatus that generates induced cavitation. Said apparatus comprising a rough-rotor. The void zone adjacent to the cavitation zone would have been inherent to the use of the Matsuoka Mitsuhsisa processes.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM